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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,327	12/06/2001	Charles A. Nicolette	GZ 2101.20	8127

7590 12/05/2005

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EXAMINER	
YU, MISOOK	

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,327	NICOLETTE, CHARLES A.	
	Examiner	Art Unit	
	MISOOK YU, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-13 and 15-29* is/are pending in the application.

4a) Of the above claim(s) *5, 8-13, 16-18, 22-29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,7,15 and 19-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 8-12, 16-18, 22-29 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Claims 5, and 13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Claims 1-13 and 15-29 are pending. Claims 1-4, 6, 7, 15, 19-21 are examined under consideration.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. This Office action contains new grounds of rejection.

Specification, Maintained

Submission of the sequence listing, statement, and CRF is acknowledged. This submission does not obviate objection of the specification because the submitted SEQ ID NO: 12 is not what the specification as originally described at paragraph [043]. Applicant in the sequence statement says that the support for SEQ ID NO: 12 is found at paragraph [043], where it says SEQ ID NO: 12 is the polynucleotide sequence encoding compound 5. The submitted SEQ ID NO: 12 has "y" and "h" and other symbols that are not recognized as nucleotide symbols. SEQ ID NOs 4, 6, 8, and 10 have the same problems.

Claim Rejections - 35 USC § 102

Claim 7 remains rejected under 35 U.S.C. 102(b) as being anticipated by Nupponen et al., IDS filed on 08/19/02, Am J Pathol. 1999 Jun;154(6):1777-83.

The claim is drawn to cancer diagnosis by measuring an amount of mRNA transcript encoding a p40 unit of an elf3 protein using a probe made from nucleic acid encoding instant SEQ ID NO:11 using various art-known hybridization conditions, wherein at least 2 fold greater expression as compared to normal control.

Applicant argues that Nupponen does not compare the expression to normal or control sample as require by the claim. Applicant further argues ZR 75-1 cells are a breast cancer cell line, not normal or control.

These arguments have been fully considered, but unpersuasive because the specification as originally filed does not exclude ZR 75-1 cells as a control sample. The instant specification is not about inventor's discovery of a reference level or control sample for elf3. In fact, the specification does not disclose any control or normal sample value of the expression. Further, the claim does not require detecting the expression of normal or control sample, each time the sample of interest is being tested. Therefore, "overexpression" in the title of the prior art of record is already compared to an art-known reference point. In addition, very high copy number of "p40 (50-100 copies)" at page 1782 of the prior art of record clearly indicates that the expression is at least 2-fold or greater because normal or control sample of p40 copy should not be more than 2 copies, one from each of the alleles.

The previously rejected not repeated here is withdrawn because the amended claims are no longer anticipated by Nupponen et al.

Claims 1-4, 7, 15, 19, and 21 are rejected under **35 U.S.C. 102(b)** as being anticipated by **Tymms et al.,** Oncogene. 1997 Nov 13;15(20):2449-62.

The claims are interpreted as drawn to cancer diagnosis by measuring an amount of mRNA transcript encoding an elf3 protein using a probe with various art-known hybridization conditions, wherein at least 2 fold greater expression as compared to normal control (claim 7) is indicative of cancer.

Applicant argues that the instantly claimed invention is drawn to Genbank accession number NM_003756, not an elf3 as disclosed in Tymms et al.

This argument has been fully considered but found unpersuasive because arguing with Genbank accession number NM_003756 is considered as arguing a limitation not present in the claims.

Tymms et al., teach at page 2453, the paragraph bridging right and left columns, Fig. 5d that the higher expression of elf3 was detected in primary lung cancer tissues samples as compared to normal sample. Also note page 2460 under the heading "RNase protein protection analysis" probes and other art-known procedure for carrying out detection of mRNA. Thus, **Tymms et al.**, anticipate Claims 1-4, 7, 15, 19, and 21 .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 7 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Tymms et al., (cited above).

The claims are interpreted as drawn to aiding in ovarian (the elected species) cancer diagnosis by measuring an amount of mRNA transcript encoding an elf3 protein, wherein at least 2 fold greater expression as compared to normal control is indicative of cancer diagnosis.

Applicant argues that eIF3 of Tymmes et al., and eIF3 in instant claim 1 are different as discussed above.

This argument has been fully considered but found unpersuasive because applicant argues a limitation not present in the claims as discussed above.

Tymms et al., teach all the reagents and probes for detection of the amount of transcript encoding the elf3 shown in Fig. 1a at page using a lung cancer sample, and control normal sample.

Tymms et al., do not directly test ovary tissues samples.

However, Tymms et al., at the paragraph bridging pages 2449-50 teach one of the most common solid tumors in human are carcinomas arise from the transformation

of epithelial cells including ovarian epithelial cells, and also suggests that the chromosome region containing the elf3 protein is epithelial tumors of ovary. Note also abstract.

Therefore, it would have been obvious to use the claimed method with reasonable expectation of success for aiding in diagnosis of epithelial origin of ovarian tumors for reasonable expectation given teachings of all the necessary reagents and probe and method of contacting the experiments.

Claims 1, 3, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tymms et al., (cited above) in view of U.S. Pat. No. 5,445,934 (Aug. 29, 1995).

The claims are interpreted as drawn to aiding in cancer by measuring an amount of mRNA transcript encoding an elf3 protein using a probe on a solid support or on a chip.

Applicant argues that eIF3 of Tymmes et al., and eIF3 in instant claim 1 are different as discussed above.

This argument has been fully considered but found unpersuasive because applicant argues a limitation not present in the claims as discussed above.

Tymms et al., teach all the reagents and probes for detection of the amount of transcript encoding the elf3 shown in Fig. 1a at page using a lung cancer sample, and control normal sample. See 102 (b) rejection above for further detail.

Tymmes et al., do not teach a probe on a chip.

However, U.S. Pat. No. 5,445,934 throughout the entire patent teaches that oligonucleotide probes immobilized on a solid support or on a chip is a well known technology well before the effective filing date of the instant application.

Therefore, it would have been obvious to use the probe on a chip for detection of mRNA encoding the elf3 protein of Tymmes et al., with a reasonable expectation of success.

Claims 1, 7, and 14 remain rejected, and claims 2-4, 6, 19, and 21 are also rejected under 35 U.S.C. 103(a) as being unpatentable over **Nupponen** et al., (cited above) in view of Tymms et al., (cited above).

The claims are interpreted as drawn to method of aiding ovarian cancer diagnosis by detecting elf3-p40 expression by at least 2 fold greater than in a normal control sample.

Applicant argues that eIF3 of Tymmes et al., and eIF3 in instant claim 1 are different as discussed above.

This argument has been fully considered but found unpersuasive because applicant argues a limitation not present in the claims as discussed above.

Nupponen et al., teach method of aiding two other epithelial cancers diagnosis by detecting elf3-p40 expression by at least 2 fold greater than in a normal control sample. Note 102 (b) rejection above for further detail.

Nupponen et al., do not teach ovarian cancer is epithelial cancer related to the two other epithelial cancers that express at least 2 fold greater as compared to normal sample.

However, Tymms et al., suggest a tumor marker for a one epithelial tumor might be a marker for another epithelial tumor.

Given no data present in the instant specification about aiding ovarian cancer diagnosis by detecting elf4-p40 overexpression, other than the assertion at pages 46, and 47 of the specification:

> Further provided by the present invention are methods for aiding in the detecting, diagnosing, prognosing, and monitoring the progression, course, or stage of eIF3-related cancers or malignancies in subjects afflicted therewith. These invention methods comprise detecting the differential expression of an eIF3 protein in a sample isolated from a cell or tissue, wherein the presence and/or amount of the protein is indicative of the neoplastic condition of cell or tissue. An eIF3-related neoplasia is one in which the expression or expression of the protein serves as a marker for the neoplastic phenotype. A test sample which demonstrates the expression of the eIF3 protein at a level at least twice that observed in a control sample is considered to be indicative of cancer. Samples of cells or tissue can be provided free form or attached to a solid support and can be isolated from a tissue culture, commercially available cell line, from a patient biopsy or as in the case of use of the method for tissue imaging, in vivo.
>
> In one aspect, the method is practiced by detecting and/or quantifying mRNA encoding eIF3 protein or the protein itself by hybridization or PCR. Modification of current technology enables this method, e.g., detecting is by probing said sample with a probe or primer that specifically hybridizes under conditions of moderate or highly stringent conditions with said eIF3 mRNA. In one aspect, the probe or primer is detectably labeled. Examples of suitable probes include but are not limited to a sequence selected from the group consisting of SEQ ID NOs:. 1 and 12 and complements thereof; a nucleic acid sequence encoding a peptide selected from the group consisting of SEQ ID NOs.:2 and 11 and complements thereof; and probe or primer comprises at least 9 consecutive residues of a protein encoded by a nucleic acid encoding a sequence recited in SEQ ID NOs: 2 and 11, and complements thereof.

Nupponen et al., in view of Tymms et al., is obvious for the instantly claimed invention.

One of ordinary skill would be motivated to use the claimed invention for ovarian cancer marker for fast and efficient screening of ovarian cancer. One of ordinary skill would be able to practice the claimed invention with a reasonable expectation of given the teachings of all the reagents and procedures disclosed by Nupponen et al.

The Following Are New Grounds of Rejection

Claim Rejections - 35 USC § 112

Claims 1-4, 6, 7, 15, and 19-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Office is unable to find limitation the support that the claimed invention involves test samples from "skin". Applicant states that support for the amended claims are found in paragraph [0029], [0117], and [0179]. However, the support is not found in those paragraphs. Applicant is kindly requested to point out the support in the specification as originally filed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

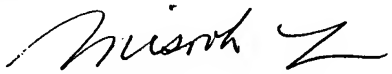
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MISOOK YU, Ph.D. whose telephone number is 571-272-0839. The examiner can normally be reached on 8 A.M. to 5:30 P.M., every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Examiner
Art Unit 1642